GEOTHERMAL ENERGY heat from the earth

holds enormous resources - among

the largest in the

United States - of this clean, reliable form of energy that to date have barely been tapped. According to U.S. Geological Survey estimates, Idaho ranks seventh among the 50 states in developable geothermal energy. These resources could provide up to 20% of Idaho's heat and power needs.

Geothermal

Homegrown Energy

It's here, right beneath our feet! No need to import!

Current Development

Idaho already boasts 70 direct-use geothermal sites with an installed capacity of 102 megawatts of thermal energy, producing 1,228 billion BTUs per year - equal to 204,000 barrels of oil.

Economic Benefits

Current commercial uses of geothermal energy in Idaho include:

- •fish farms producing 2.2 million pounds of tilapia and catfish annually, as well as alligator hides and meat
- •greenhouses raising potted plants, cut flowers, and vegetables on 15 covered acres

- •district heating systems in Boise and Ketchum
- •heated pools at resorts and spas,
- •geothermal heat pumps for space conditioning in homes and large buildings.

Half of all Federal geothermal lease revenues from rental fees and production royalties are returned to the state. There are currently no geothermal leases on Idaho Federal lands, but the potential for state revenues for Idaho, where 63% of the land is under Federal management, is significant.

Technical Capabilities

Universities, state agencies, private industry, and a National Laboratory bring outstanding technical capabilities to the task of furthering development of Idaho's geothermal resources. The U.S. Department of Energy's Idaho National Engineering and Environmental Laboratory in Idaho Falls conducts research and development in several areas of vital importance to the geothermal industry and the public, including geoscience and energy systems development. DOE is investing nearly \$4.3 million in

the state of Idaho to promote wider use of its valuable geothermal resources.



ldaho's geothermal fish farms produce 2.2 million pounds annually.



The Idaho State Capitol is the only U.S. capitol heated with geothermal waters.

History

Ten thousand years ago, North American Paleo-Indians used geothermal hot springs for cleansing, cooking, healing, and even

negotiating. In the late 1800s, recreational spas were developed in the east, northern California, Yellowstone National Park, and Idaho.

Modern geothermal use in Idaho began in 1892 when the Warm Springs district heating system began operating in Boise. It's still in use today and has been joined by three other systems - the Boise City System, the Veterans Administration Hospital System, and the Capitol Mall Complex System (the only state capitol in the U.S. heated

with geothermal waters). These systems are

cleanly and economically heating 366 buildings - 4,426,000 square feet (equivalent to heating 1,700 houses!).

In 1930, Idaho's first geothermally heated commercial greenhouse was developed in Boise and is still operating today, along with at least 14 other greenhouse operations in the state.



Geothermal heat provides excellent growing conditions.

GeoPowering the West

GeoPowering the West is a cooperative Federal, state, and local effort to promote awareness of the vast geothermal energy resources in the western United States, including Alaska and Hawaii. GeoPowering the West partners with businesses, government officials, Native American groups, utilities, and energy consumers to expand the use of geothermal energy. For further information on these efforts, please contact the following:

State of Idaho Energy Division http://www.idwr.state.id.us/energy/Energy/ altenergy.htm John Crockett, Renewables Specialist 800.334.SAVE jbcrocke@idwr.state.id.us

Idaho Water and Energy Resources Research Institute http://uidaho.edu/rsrch/iwrri Roy Mink, Director 208.885.6429 iwrri@uidaho.edu

U.S. Department of Energy -Seattle Regional Office http://www.eren.doe.gov/sro/ Curtis Framel, Senior Program Manager 206.553.7841 curtis.framel@ee.doe.gov

U.S. Department of Energy GeoPowering the West http://www.eren.doe.gov/geopoweringthewest Susan Norwood, National Coordinator 202.586.4779 susan.norwood@ee.doe.gov

Idaho National Engineering and Environmental Laboratory http://geothermal.id.doe.gov/ Bob Neilson, Renewable Energy Manager 208.526.8274 rmn@inel.gov

National Renewable Energy Laboratory http://www.nrel.gov Gerry Nix, Geothermal Program Manager 303.384.7566 gerald_nix@nrel.gov

Geo-Heat Center (Direct Use Technical Information) http://geoheat.oit.edu Kevin Rafferty, Associate Director 541.885-1750 raffertk@oit.edu



Produced for the U.S. Department of Energy 1000 Independence Avenue, SW Washington, DC 20585 by the National Renewable Energy Laboratory, a DOE national laboratory

DOE/GO -102001-1350 Revised October 2001 Printed with renewable-source ink on paper containing at least 50% wastepaper, including 20% postconsumer waste

